



STATE OF MICHIGAN

JENNIFER M. GRANHOLM
GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
LANSING

REBECCA A. HUMPHRIES
DIRECTOR

December 28, 2005

The Honorable Shirley Johnson, Chair
Senate Appropriations Committee
S-324 Capitol Building
P.O. Box 30036
Lansing, Michigan 48909-7536

The Honorable Scott Hummel, Chair
House Appropriations Committee
351 Capitol Building
P.O. Box 30014
Lansing, Michigan 48909-7514

Dear Senator Johnson and Representative Hummel:

Pursuant to Section 503 of 2005 PA 154, attached is the Department of Natural Resources' action plan addressing management of cormorants.

If you have any questions, please feel free to contact me.

Sincerely,

Sharon M. Schafer, Chief
Budget and Support Services
517-335-3276

Attachment

cc: Senate Appropriations Committee Members
House Appropriations Committee Members
Ms. Jessica Runnels, Senate Fiscal Agency
Dr. Kirk Lindquist, House Fiscal Agency
Ms. Mary Lannoye, State Budget Director, Department of
Management and Budget (DMB)
Mr. Jacques McNeely, DMB
Ms. Jennifer Harrison, DMB
Director Rebecca Humphries, DNR
Mr. Dennis Fox, Chief of Staff, DNR
Mr. Dennis Fedewa, Chief Deputy, DNR
Ms. Arminda Koch, Resource Management Deputy, DNR
Mr. Rodney Stokes, Legislative Liaison, DNR
Dr. William Moritz, DNR
Dr. Kelley Smith, DNR
Ms. Jane Schultz, DNR

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STEVENS T. MASON BUILDING P.O. BOX 30028 LANSING, MICHIGAN 48909-7528

www.michigan.gov/dnr (517) 373-2329

Department of Natural Resources Double-Crested Cormorant Action Plan

Summary

Legislative Mandate

PA 154 of 2005, Sec. 503. From the funds appropriated in part 1, the department shall consult with other states, provinces, and relevant nonprofit organizations in the Great Lakes basin and create a regional action plan to manage the cormorant, including the potential for lethal control. By December 31, 2005, the department shall submit the action plan to the state budget director, the senate and house appropriations committees, and the senate and house fiscal agencies.

Department of Natural Resources Actions To Date

- Cooperated with United States Department of Agriculture (USDA) Wildlife Service in identifying cormorant/fisheries issues and monitoring game fish response to cormorant control and harassment actions
- Consulted with U.S. Fish and Wildlife Service (USFWS) and other Great Lakes states and provinces at an annual cormorant management meeting and through telephone and e-mail communications
- Developed a departmental report summarizing research information related to cormorant life history and relationships to other species and the natural environment
- Attended public meetings and hearings related to cormorant issues
- Cooperated in breeding colony surveys with USFWS, USDA Wildlife Services, universities, and other agencies
- Established a Cormorant Coordination Group with USFWS and USDA Wildlife Services to develop annual cormorant management action plans
- Supported adoption of a Director's resolution at the Midwest Association of Fish and Wildlife Agencies meeting
- Contacted other state agencies in relation to regional management through the Mississippi Flyway Council

Department of Natural Resources Double-Crested Cormorant Action Plan

Once on the verge of extirpation in the Great Lakes region, the cormorant population has rebounded in response to changes in human disturbance, changing environmental factors (e.g., chemical and biological conditions, water quality), and changes in fish populations. The increased number of cormorants in the Great Lakes has raised concerns regarding impacts on game fish species, the forage base (smaller fish consumed by larger predatory fish and birds), island resources, and other colonial water birds.

Management Authorities:

Federal Authority

The United States Fish and Wildlife Service (USFWS) has primary statutory authority to manage migratory birds. In the case of cormorants, this authority resulted from a 1972 amendment to the *Convention between the United States of America and the United Mexican States for the Protection of Migratory Birds and Game Animals* (23 U.S.C.260, T.I.A.S. 7302) developed under the Migratory Bird Treaty Act (16 U.S.C. 703-711:40 Stat. 755). Under this Act, the take of cormorants was strictly prohibited except as authorized by implementing regulations.

In 1999, the USFWS announced its intent to prepare an Environmental Impact Statement (Federal Register, 64 FR 60826) to address “impacts caused by population and range expansion of the double-crested cormorant.” This process was completed with rules amending the Migratory Bird Permits Section (50 CFR Part 21) by establishing “Regulations for Double-Crested Cormorant Management” (Federal Register, 68 FR 58022). The purpose of the Public Resource Depredation Order (PRDO) was “to reduce the occurrence and/or minimize the risk of adverse impacts to public resources (fish, wildlife, plants and their habitats).” Public resource control actions can be initiated by the USDA Wildlife Services; state fish and wildlife agencies; or federally-recognized tribes. Any of these agencies may designate agents to carry out control actions.

This order does not authorize the take of cormorants by the general public nor does it authorize any state or federal agency or tribe to conduct regional cormorant population reduction efforts. Regional population reduction was considered as an alternative in the USFWS Environmental Impact Statement process, but was not selected as the USFWS’s proposed action. In considering the regional population control alternative, the USFWS stated, “We believe that an interagency and interdisciplinary discussion of the idea of reducing [cormorant] populations needs to take place before we draw a conclusion on its necessity and its effectiveness at actually reducing resource conflicts.” In publishing the final rule (Federal Register, 68 FR 58022) the USFWS retained future consideration for regional control by including the following: “To address [cormorant] populations from a broader and more coordinated perspective, a population objectives approach will likely need to be considered over the long term. In the future, if supported by biological evidence and appropriate monitoring resources, the USFWS may authorize management that focuses on setting and achieving regional population goals.”

No direct federal funding was provided to carry out control activities with this new authority under the PRDO.

State Authority

The Department, under Public Act 451 of 1994, is empowered to “protect and conserve the natural resources of this state” (MCL 324.503 (1)). In addition, MCL 324.40105 states, “All animals found in this state, whether resident or migratory and whether native or introduced, are the property of the people of the state, and the taking of all animals shall be regulated by the department, as provided by law.”

Further, the Department has authority to issue orders determining the kinds of animals that may be taken and determining the animals or kinds of animals that are protected (MCL 324.40107 (1)).

These regulations are incorporated under the Wildlife Conservation Order, as amended by the Natural Resources Commission and the Director of the Department. Section 9.3 (2) (Protected Animal; Unlawful Acts) lists cormorants as a protected species that can be taken only by means identified in Section 9.1 (Permitted Acts, Certain Species). The following methods are identified covering harassment or taking cormorants or their eggs:

9.1 (5)(a) Double-crested cormorants may be harassed without a permit by nonlethal means to deter or prevent damage to private property or to public fishery resources using such devices as noise makers or scare devices and other recognized and recommended means of preventing damage which do not kill, harm, capture, trap, or collect animals.

9.1 (5)(b) Double-crested cormorants may be taken and their eggs destroyed or oiled by department employees and designated agents of department employees at times and by manners identified through a state breeding colony or local breeding population control action which has been submitted to the United States fish and wildlife service.

Cormorant Management Activities in Michigan

After final publication of the PRDO, several federal, state, and tribal agencies in the Great Lakes region initiated a variety of actions (Tables 1 & 2). In 2004, USDA Wildlife Services initiated actions at two sites within Michigan. Actions in the Les Cheneaux area included breeding colony control by killing adults and egg oiling, while actions on Drummond Island involved harassment supplemented with limited lethal take. Funding for these actions was provided by an earmarked federal congressional appropriation for cormorant control and research in Michigan. Actions initiated at Drummond Island also included the designation of agents from the local area. As part of the lethal control activities, stomachs were collected to examine the cormorant diets. Fisheries data, used to support the actions, were collected by Department personnel. Additional monitoring by the Department will help determine the effectiveness of actions taken.

Based on discussions between USDA Wildlife Services, the Department, and the U.S. Forest Service, additional fisheries resources potentially displaying impacts from cormorants were identified. Control activities in Michigan were expanded in 2005 to include control actions at Brevort Lake, Chippewa County; Grand Lake and Long Lake, Alpena County; and the Rockport area in Thunder Bay. Except for the Thunder Bay efforts, these actions involved harassment supplemented by limited lethal take primarily targeting early spring migratory flocks. Again, as in 2004, fisheries information related to supporting the need for actions was collected by Department personnel and determination of the effectiveness of actions will be monitored. Two smaller control actions were conducted by tribes in Michigan on Whitefish Bay, Lake Superior and on a stocked inland lake fishery in Keweenaw County. Final reports on actions are not due to the USFWS until December 31, 2005.

In those areas where issues identifying potential cormorant impacts on fisheries arise, data collected by the Fisheries Division will be critical in making appropriate decisions about the need for control and suitable actions. The Department conducts creel censuses to estimate angler catch and angler success at both inland and Great Lakes access points. The Department also conducts numerous netting surveys to assess fish population structure across the state. Efforts will be made to direct some assessment activities to areas to support identification of potential cormorant impacts and to measure the effectiveness of cormorant control efforts. The Fisheries Division has planned approximately 100 surveys throughout the state for 2006.

During 2005, breeding colony counts in Michigan were conducted by several entities including the USDA Wildlife Services, USFWS, Central Michigan University, and the University of Minnesota. An estimate of the Michigan breeding population can be made from the survey activities conducted (Table 3). Based on the information available, it appears that the cormorant

breeding population in 2005 was approximately the same as in 1997. There does appear to be some shifting of breeding pairs from smaller colonies to larger colonies.

During the Midwest Association of Fish and Wildlife Agencies annual meeting in July, directors of the state fish and wildlife management agencies adopted a resolution concerning cormorant management (Attachment 1).

In addition, a symposium, *Cormorants: Research, Management, & Policy*, was held during the Midwest Fish and Wildlife conference held in Grand Rapids, December 11-14, 2005 (Attachment 2). This symposium provided an opportunity to share recent research findings, as well as discuss management activities occurring in the Great Lakes.

Future Activities

Decisions about cormorant control under the PRDO in Michigan will be made on a case by case basis, after consultation with the involved action agencies: the USFWS (Office of Migratory Birds), the Department, and the USDA Wildlife Services. These federal and state agencies have established an informal Cormorant Coordination Group to exchange information on cormorant management and discuss sites where control action should be initiated in Michigan. The agencies comprising the Michigan Cormorant Coordination Group have agreed that they will strive to work cooperatively, rather than independently, on cormorant management issues in Michigan. However, each agency retains its own authority to make management decisions. Also, the Cormorant Coordination Group will maintain active contacts with interested stakeholder organizations on proposed actions.

Plans are being developed for PRDO activities to be conducted in 2006. A meeting of the Cormorant Coordination Group will be held in January 2006. A meeting to discuss planned actions with stakeholders will be scheduled in February. Currently, it is anticipated that population and harassment actions occurring in 2005 will continue at the same sites during 2006. In addition, monitoring of the population control and harassment effectiveness will continue. Additional actions for 2006 will be considered and prioritized. In addition, these meetings will be used to identify any information or research needs necessary to assist in development of long-term cormorant management.

Several stakeholder groups have offered to provide volunteer or monetary support for activities related to cormorant management in Michigan. As sites are identified for action, interested groups will be contacted for support, as necessary.

Prior to the northern migration of cormorants, the Department will distribute a cormorant complaint form. The form will be used to collect information on potential cormorant issues as well as tracking numbers of cormorants (migrants, or breeding colonies). This information will be used by the Cormorant Coordination Group to identify issues related to cormorants.

The next regional cormorant breeding colony count is expected to occur in 2007 as part of the USFWS Great Lakes colonial water bird count. In 2006, some breeding surveys will continue on colonies involved in the PRDO actions. Counts are also expected to continue on some cormorant colonies as part of annual survey activities conducted by individual agencies or as part of a university study. The Department is anticipating completing surveys on colonies that did not receive direct counts during 2005. These data will be used to supplement estimates made for the 2005 breeding period.

Regional Coordinating Activities

While the final rule (Federal Register, 68 FR 58022) did not include regional population reduction actions, regional coordination of state activities is taking place. Representatives from both Wildlife and Fisheries Divisions have attended meetings in 2004 and 2005 to discuss

regional activities and efforts under the PRDO. These meetings have been hosted by the USFWS regional office and occurred in Minneapolis, Minnesota and Sandusky, Ohio. Representatives of nearly every Great Lakes state and Canadian Great Lakes province (Ontario, Quebec) have been present.

Agenda items included updates on control activities, research and survey results, and discussions on issues related to the current PRDO. The USFWS has indicated that these meetings will continue and the Department has encouraged the USFWS to hold the meeting at least once each year.

The USFWS has kept open the consideration of regional population reduction as an alternative and it is expected that they will seek input from Flyway Councils. Flyway Councils (Pacific, Central, Mississippi, and Atlantic) were developed to enhance cooperative management of migratory game birds among states, Canadian provincial governments, and USFWS partners. Michigan has been an active member of the Mississippi Flyway Council (MFC) since its inception in 1952. The MFC meets twice annually for management planning and to develop regulation recommendations regarding take of migratory game birds to the USFWS. Examples of migratory game bird management planning activities by the MFC include: completed management plans for woodcock and various populations of Canada geese, involvement in recommendations for Adaptive Harvest Management of the mid-continent mallard population, and annual development of formal recommendations to the USFWS on migratory game bird hunting regulation frameworks. Flyway recommendations and consultation are documented in the *Federal Register*. Although Flyway Councils have historically focused exclusively on hunted migratory birds, the International Association of Fish and Wildlife Agencies (IAFWA) recently recognized the need to have a more formal process for consultation with the USFWS on regulatory issues involving nongame migratory bird populations. Although the extension to include Flyway Councils' consideration of nongame migratory bird issues is still under development, the Department expects double-crested cormorant management to be addressed in the near future. For example, double-crested cormorant management was specifically mentioned in the IAFWA's 2005 report (Proposal for an Expanded Flyway System), as follows:

“Caspian Tern and Double-Crested Cormorant Management — *Within the past decade, conflicts between nongame piscivorous birds and other natural resources or human interests have been of increasing concern. Recent management issues include Caspian Tern predation of endangered salmon smolts in the Columbia River, commercial losses of fish at aquaculture facilities from foraging Double-crested Cormorants and cormorant depredation on game fish in public waters. Lacking a suitable process or framework for resolving nongame migratory bird resource issues in partnership with State wildlife agencies (e.g., the Flyway Councils), the Service sought the input from States through a variety of formal and informal approaches. These included agency and public comment opportunities offered during the development of Environmental Impact Statements, informal staff-to-staff contacts, and multi-agency ad-hoc groups such as the Caspian Tern Working Group. Both the Service and State agencies have found these options to be an inefficient and mutually unsatisfactory means to resolve complex nongame bird management issues. These options typically resulted in protracted and often disjointed issue resolution as the Service was faced with a multitude of conflicting recommendations from individual states. Similarly, State wildlife agencies found these venues for addressing nongame resource conflicts often failed to fully recognize their views, needs, or management responsibilities. Informal communications and ad-hoc working groups lacked the authority for decision-making and often suffered from breakdowns in communication and lack of direction between staff and policy-level decision-makers. The formation of nongame migratory bird technical sections under the Flyway Councils would serve as a forum for addressing nongame bird management issues at the regional and national scales. This option ensures that technical and procedural needs are addressed, policy-level decision-makers are engaged, and a process for regulating the use or management of nongame migratory birds at an appropriate scale is available.”*

Because cormorants are migratory birds, the Department considers the MFC to be the most appropriate group to coordinate activities related to the development of a regional management plan. The Department intends to take a leadership role in promoting discussion of this issue at upcoming Flyway Council meetings.

The Department has authority for managing the state's wildlife resources and recognizes that issues related to the increased cormorant population in Michigan are occurring. The Department will continue to handle this issue incorporating both biological and social considerations and applying the best scientific information to take appropriate action. Actions undertaken by the Department will be consistent with current authorities under federal and state regulations. The Department will continue to advocate for modifications or changes to enhance its ability to address issues related to cormorants.

Table 1. Calendar Year 2004 Double-Crested Cormorant Management Activities

State	Action Agency	Type of Action(s)	Resource Justification	Location(s)
New York	APHIS/Wildlife Services	105 birds taken; 592 eggs taken; 71 nests oiled; 449 nests destroyed	Protect sportfish, reduce interspecific competition and reduce property damage (vegetation)	Oneida Lake, St. Lawrence River (Central NY watershed)
	New York Department of Environmental Conservation	377 birds killed; 11,379 nests oiled; 2,369 nests destroyed	Protect habitat, reduce competition w/other birds, reduce sportfish depredation	Eastern Lake Ontario, Lake Erie, Niagara River
Vermont	APHIS/Wildlife Services and VFWD	208 birds taken; 1,458 nests oiled	Reduce damage to vegetation (habitat) and promote wildlife diversity	Young Island, Lake Champlain
Michigan	APHIS/Wildlife Services	1,202 birds killed; 3,114 nests oiled	Reduce DCCO foraging on yellow perch	Les Cheneaux islands and Drummond Island, Lake Huron
	Bay Mills Indian Community (CORA)	222 birds shot	Reduce depredation on walleye at stocking sites	Eastern Lake Superior and northern Lake Huron
	Sault Ste. Marie Tribe (CORA)	Had plans to act under PRDO but did not do so in 2004	Reduce depredation on walleye and other fisheries	Northern Lake Huron
Minnesota	APHIS/Minnesota Department of Natural Resources	Nonlethal activities only	Reduce depredation on stocked salmon smolts and prevent damage to trees and vegetation	Knife Island/mouth of the Knife River, Lake Superior
	Leech Lake Band of Ojibwe	Habitat reduction	Protect common terns and reduce walleye predation	Little Pelican Island, Leech Lake

Abbreviations:

APHIS = United States Department of Agriculture Animal and Plant Health Inspection Service

CORA = Chippewa Ottawa Resource Authority

DCCO = Double-Crested Cormorant

PRDO = Public Resource Depredation Order

VFWD = Vermont Fish and Wildlife Department

Table 2. Calendar Year 2005 Double-Crested Cormorant Management Activities

State	Agency	Type of Action(s)	Resource Justification	Location(s)
Michigan	APHIS/Wildlife Services	Oil eggs and take up to 1,600 birds (LCI); harassment and shooting at other sites	Reduce DCCO foraging to improve yellow perch survivorship (LCI);	Colonies in the Les Cheneaux Islands; Drummond Island, Brevoort Lake, Long Lake, Grand Lake, Rockport site
	Keweenaw Bay Indian Community	Shoot 10-20 birds	Reduce DCCO predation at small inland lake before a Kids' Fishing Day event	Western Upper Peninsula
	Bay Mills Indian Community (CORA)	Shooting	Facilitate better survival rates for stocked walleye fingerlings to improve tribal fishery and overall health of lake ecosystems	Islands and waters of eastern Lake Superior and northern Lake Huron
Minnesota	Leech Lake Band of the Ojibwe, APHIS/Wildlife Services, Minnesota Department of Natural Resources	Harassment, egg and nest destruction, nesting habitat reduction, culling of adults, egg oiling	Reduce DCCO predation levels to improve walleye and perch stocks and to reduce impacts on other birds	Little Pelican Island colony and waters of Leech Lake
	APHIS/Wildlife Services and New York Department of Environmental Conservation	Take up to 200 birds, nest destruction, egg oiling, hazing		Oneida Lake
New York*	"	Shooting and nest destruction	Control of pioneering colonies	Central New York Watershed
	"	Take up to 300 birds, nest destruction, hazing	Reduce competition between DCCOs and Black-Crested Night Herons and protect nesting habitat	Bass and Gull Islands, Eastern Lake Ontario
	"	Oil eggs, destroy nests, shoot up to 800 birds		Little Galloo Island, ELO
*Total take in New York will not exceed 2,300	"	Take up to 1,000 birds, nest destruction, hazing	Eliminate DCCO colony to prevent competition between DCCOs and herons	Strawberry and Motor Islands, Niagara River
Vermont	APHIS/Wildlife Services and VFWD	Take approx. 600 adults and oil eggs	Reduce 20% of breeding population to allow for recovery and propagation of island vegetation	Young Island, Lake Champlain
Ohio		Take up to 500 birds under a SCCL permit		

Abbreviations:

APHIS = United States Department of Agriculture Animal and Plant Health Inspection Service

CORA = Chippewa Ottawa Resource Authority

DCCO = Double-Crested Cormorant

SCCL = Scientific Collecting

VFWD = Vermont Fish and Wildlife Department

Table 3. Double-Crested Cormorant Breeding Colony Surveys

Waterbody	Site	1997	2003	2004	2005
Lake Superior	Amygdaloid Island, Isle Royale National Park	82			No Survey
	Granite Island	100			No Survey
	Little Traverse Island	30			No Survey
	Net Island, Isle Royale National Park	460			No Survey
	North Rock, Isle Royale National Park	188			No Survey
	Paul Island Rocks, Isle Royale National Park	38			No Survey
	Steamboat Island, Isle Royale National Park	438			No Survey
	Tahquamenon Island	297			157
Lake Michigan	Bellows Island	452	675		No Survey
	Big Gull Island	2,114			3,684
	Davenport Creek Shoal	3			724
	East Grape Island	478			0
	Epoufette Island	608			0
	Fishermans Island	584			863
	Green Island, Mackinac	8			425
	Gull Island	1,887			2,332
	Hat Island	4,617			5,289
	Island southeast of Garden Island				44
	Ile aux Galets				713
	Ludington Pump Storage Break Water				No Survey
	Little Gull Island	1,528			1,703
	Morazan	29	300		340
	Naubinway Island	690			1,131
	Pismire Island	383			838
	Rocky Island	96			0
	Snake Island, Bay de Noc	1,467			1,426
	Timms Island	753			0
	West Grape Island	3,031			0
	Whiskey Island	560			0
St. Mary's River	East Pipe Twin Island	27			0
	Gem Island	32			150
	Little Cass Island	19			27
	Propellor Island	256			0
	Rock Island	261			0
	West Pipe Twin Island	4			0
Lake Huron	Bird Island	690			No Survey
	Crow Island	221			106
	Goose Island	1,928			713
	Grassy Island	8			No Survey
	Gull Island	1,309			No Survey
	Little Charity Island	438			1,604
	Little Saddlebag Island	403			571
	Saginaw CDF				197
	Scarecrow Island	1,777			1,583
	St. Martin's Shoal	1,767			1,374
Detroit River	Peche Island range light				34
Lake Erie	Detroit Edison	397		0	0
Grand Total		30,458	975	0	26,028

Attachment 1

MIDWEST ASSOCIATION OF FISH AND WILDLIFE AGENCIES
REGIONAL CORMORANT CONTROL
RESOLUTION

WHEREAS, cormorant populations in the United States have increased dramatically in the past ten years, and

WHEREAS, wildlife damage has been documented in many areas in the Great Lakes and throughout the country, due to the huge numbers of cormorants during migrations and nesting periods, and

WHEREAS, cormorants have devastated large quantities of terrestrial habitat, many in sensitive locations that are important to valued native bird species, and

WHEREAS, cormorants have inflicted significant damage to economically and ecologically valuable game and forage fish populations via predation, and

WHEREAS, the regulatory regime of the U.S. Fish and Wildlife Service, under the Migratory Bird Treaty Act, has changed, providing opportunities for state and tribal fish and wildlife agencies to implement cormorant control projects to minimize harmful impacts, and

WHEREAS, the success of local efforts to control cormorants and solve local habitat and predation problems are ultimately dependent on a sound, coordinated regional strategy;

NOW, THEREFORE, BE IT RESOLVED, that the Midwest Association of Fish and Wildlife Agencies at its annual meeting in Huron Ohio, on July 13, 2005:

1. Encourages immediate implementation projects to limit the expansion of cormorant nesting colonies and to begin reducing the size of existing colonies, consistent with their authorities;
2. Recommends that the International Association of Fish and Wildlife Agencies (IAFWA), in cooperation with other relevant entities, convene experts to summarize the known information regarding the population of dynamics, control efforts, and harmful effects on the environment and other wildlife populations; and
3. Recommends that the IAFWA, in cooperation with other relevant entities, create a plan among state, federal, and non-governmental entities that specifies the objectives and appropriate actions needed to minimize cormorant damage.

Attachment 2

Cormorant: Research, Management, & Policy Symposium Midwest Fish and Wildlife Conference December 12, 2005 Grand Rapids, MI

10:30 - 10:50am	Cormorant effects on yellow perch (Fielder)
10:50 - 11:10am	Food habits of cormorants (Bur)
11:10 - 11:30am	Cormorant management in Michigan (Butchko)
11:30 - 11:50am	Cormorant impact on perch in Green Bay (Meadows)
1:30 – 1:50pm	Cormorant and bass simulation models (Seefelt)
1:50 – 2:10pm	Fish population response to cormorant management (Coleman)
2:10 – 2:30pm	Cormorant control effects on herons and egrets (Weseloh)
2:30 – 2:50pm	Cormorant fish consumption in Lake Huron (Casselman)
3:10 – 3:30pm	Contextual considerations in cormorant damage management (Rivers)
3:30 – 3:50pm	Cormorant impacts on walleye recruitment (Goktepe)
3:50 – 4:10pm	State consensus on cormorant control (Mason)
4:10 – 4:30pm	Is the new Federal policy working? (Hanisch)